

INTEGRATED CHEMICAL MICROREACTOR, THERMALLY INSULATED FROM
DETECTION ELECTRODES, AND MANUFACTURING AND OPERATING METHODS
THEREFOR

ABSTRACT OF THE DISCLOSURE

Integrated microreactor, formed in a monolithic body and including a semiconductor material region and an insulating layer; a buried channel extending in the semiconductor material region; a first and a second access trench extending in the semiconductor material region and in the insulating layer, and in communication with the buried channel; a first and a second reservoir formed on top of the insulating layer and in communication with the first and the second access trench; a suspended diaphragm formed by the insulating layer, laterally to the buried channel; and a detection electrode, supported by the suspended diaphragm, above the insulating layer, and inside the second reservoir.